



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/862,881	08/09/2001	Craig M. Herzinger		8860

7590 05/05/2004

JAMES D. WELCH
10328 PINEHURST AVE.
OMAHA, NE 68124

EXAMINER

MATHEWS, ALAN A

ART UNIT	PAPER NUMBER
----------	--------------

2851

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

09/862,881

HERZINGER ET AL.

Examiner

Alan A. Mathews

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/22/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. After very careful consideration of Applicant's remarks filed on January 12, 2004, and December 1, 2003, concerning the Requirement of Election of Species, the newly assigned Examiner withdraws the Requirement of Election of Species mailed to Applicant on November 17, 2003, and December 24, 2003.

Claim Objections

2. Claims 1-45 are objected to because of the following informalities: In each of the claims, the subparagraphs are designated "a.", "b.", etc. Claims cannot have periods in the middle of the claims (see MPEP 608.01(m)). It is suggested that Applicant rewrite the claims using expressions such as "a)" and "b)" to designate the subparagraphs, thus avoiding periods for the subparagraphs.. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, lines 4, 9, and 12, each recite a detector. And claim 1, lines 5, 9 and

Art Unit: 2851

13, each recite “said” detector. First, the expression “said detector” on lines 9 and 13 of claim 1 is ambiguous, since it is not clear which detector “said detector” refers to. Secondly, claim 1 does not correlate the detectors on lines 4, 9, and 12. Are they the same detector, or are they different detectors. The detectors must be designated in such a manner that “said detector” is not ambiguous. Maybe Applicant could recite something like “said _____ detector”, where some expression in the blank more clearly designates which detector Applicant is referring to. In addition in claim 1, lines 5, 9, and 13, “to the end” is indefinite. Maybe Applicant could use some expression like “which causes said detector to produce a representative intensity signal”. Many of the rest of the claims also contain this indefinite expression “to the end”. In claim 1, line 17, the term “data set” is indefinite. The term “data set” has not been defined. What constitutes a data set? In addition, on lines 1 and 2 of claims 39 and 40 (which depend from claim 1), there is no proper antecedent basis for “the precision of acquired spectrophotometer intensity ratio data”, since claim 1 did not recite any “spectrophotometer”. In claim 2, line 32, “to the end that intensity ration data is acquired” is indefinite. It is not clear what this means or which intensity ratio it is referring to. In claim 2, line 33, “said method then optionally further involving performing steps f1, f2, and f3” is indefinite, since “optionally” is indefinite. It is not clear whether the steps are performed or not. The term “optionally” is also used in an indefinite manner in claim 3, 6, 21, 24, 27, 30, 33, and 36. In addition, in claim 41 (which depend from claim 2), on lines 1 and 2, there is no proper antecedent basis for “the precision of acquired spectrophotometer intensity ratio data”, since claim 2 did not recite any “spectrophotometer”. In claim 9, line 19, “with an acceptable set of intensity data secured” is indefinite. First, what is an “acceptable set of intensity data”? Secondly, what does “secured” mean? Similarly, in claim 12,

Art Unit: 2851

lines 21 and 22, “with an acceptable set of intensity data simultaneously secured” is indefinite for the same reasons. In claims 3, lines 27 and 42, claim 6, line 21, claim 15, line 23, and claim 18, line 27, it is not clear what “whereat” means. Does it mean “wherein”?

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over George (U. S. Patent No. 3,986,776) in view of Buermann et al. (U. S. Patent No. 5,991,022). George discloses in figure 1 and column 3, lines 62-67, and columns 4-6, a spectrophotometer 20 and a monochromator 22 which has a light source (a spectroscopic source of a beam of electromagnetic radiation). The sample beam (electromagnetic radiation) path 26 would impinge on the surface of a sample system and then would enter detector 28. The monochromator would pass a selected wavelength (see column 5, lines 62-67, and column 6, lines 1-2). The reference path beam 24 falling upon the detector 28 would form the baseline reference intensity data. The sample path beam 26 falling on the detector 28 would form the sample system investigation intensity data. A ratio is then formed with the baseline reference intensity data and the sample system investigation intensity data (see Applicant’s summary of the patent to George on page 5 of the

Art Unit: 2851

specification of the instant application, and also see column 5, lines 8-11, which discloses ratio electronics 42). Thus, George discloses the invention except for disclosing having the electromagnetic radiation impinge upon a reference surface of a system at an oblique angle. Buermann et al. discloses in figures 2a and 3a and column 4, lines 56-67, and column 5, lines 1-60, a spectrophotometer system including a source (electromagnetic radiation) 10, a sample 16, a means 14 for supporting a sample, and a detector in element 26. The beam of electromagnetic radiation impinges upon the sample 16 at an oblique angle and is reflected to the detector 26 which detects the intensity of radiation (see column 5, lines 39-46). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide George with a means to support the sample system at an oblique angle relative to the electromagnetic radiation in view of Buermann et al. for the purpose of producing more accurate measurements and thus more accurate results. With respect to claim 29, column 4, line 51, of George discloses transmitting electromagnetic radiation through the sample (materials to be analyzed).

6. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buermann et al. (U. S. Patent No. 5,991,022) in view of George (U. S. Patent No. 3,986). Buermann et al. discloses in figures 2a and 3a and column 4, lines 56-67, and column 5, lines 1-60, a spectrophotometer system including a source 10, a sample 16, a means for supporting a sample 14, and a detector in element 26. Column 5, lines 39-48, discloses that element 26 records the intensity of light. Thus, Buermann et al. discloses the invention except for having a monochromator and forming a ratio of a sample system investigation intensity data with a baseline reference intensity data. George discloses in figure 1 and columns 4, 5, and 6, the use

Art Unit: 2851

of a monochrometer 22 and the forming of a ratio between a reference signal (base line signal) and a sample signal (see Applicant's summary of the patent to George on page 5 of the specification of the instant application). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide Buermann et al. with a monochrometer and to form a baseline reference intensity data and a sample system investigation intensity data and to form a ratio with the reference intensity data and sample system investigation intensity data in view of George for the purpose of producing more accurate measurements and thus more accurate results. With respect to claim 29, column 4, line 51, of George discloses transmitting electromagnetic radiation through the sample (materials to be analyzed).

Allowable Subject Matter

7. Claims 1-27 and 30-45 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, and also the objections, set forth in this Office action.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents on Applicant's PTO 1449 are cited for the same reasons Applicant cited

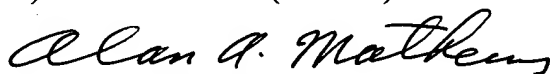
Art Unit: 2851

them in his INFORMATION DISCLOSURE STATEMENT. The patent to Ichikawa et al. are cited to show ratio calculator RC.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan A. Mathews whose telephone number is (571) 272-2123. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on (571) 272-2112. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alan A. Mathews
Primary Examiner
Art Unit 2851

AAM